UPSAG Np Technical Group
Perennial Stream Survey (PSS) Project: 2001 Pilot Phase

Protocol Application Questionnaire

The PSS Protocol Application Questionnaire is designed to provide the PSS project manager with valuable information on how individual participants applied the PSS protocol version 1.21. This information is critical for interpreting participant data for analysis and assessment of variations in application. No response to a question will be interpreted as crews followed protocol and had no problems in its meaning or application. Please return completed questionnaire (electronic or printed and filled out) with the 2001 data package. Please provide the following contact information:

Name: _____
Affiliation: _____
Phone: _____
Email: _____

1. Identify any 2001 survey sites that you question whether they should be used for analysis of the pilot study and why.

2. Identify any 2001 survey sites that you believe can be used as reference sites of least management/human disturbance regimes.

3. Place a check mark in front of any of the Definitions (section 3.0) protocols that the field crew had problems with, never used, or knowingly applied differently and why.

__ Flowing Water
__ Standing Water
__ Flowing Pocket Water
__ Standing Pocket Water
__ Dry
__ Unknown
__ Obscured

__ Defined Channel
__ Poorly Defined Channel
__ Modified Channel
__ Piped Channel
__ No Channel

__ General Channel Width
__ General Channel Depth
__ Stream Bed Substrate
__ Wetland
__ Seep

4. Identify any problems or differences applied in use of the Sample Site Selection (section 4.1) protocols.

5. Identify any Equipment and Materials (section 4.2) used or not used that you believe biased results and how.

6. Identify any Sample Period (section 4.3) protocol problems or differences that were applied and why.

7. Identify any Upstream Method (section 4.4.1.1) protocol problems or differences that were applied and why.

8. Identify any Downstream Method (section 4.4.1.2) protocol problems or differences that were applied and why.

9. Identify any Main Thread Survey (section 4.4.2) protocol problems or differences that were applied and why.

10. Identify any Total Tributary Survey (section 4.4.2) protocol problems or differences that were applied and why.

11. Identify any Measurements (section 4.4.3) protocol problems or differences that were applied and why.

12. Identify any Determining the End Point (section 4.4.4) protocol problems or differences that were applied and why.

13. Identify if and how you applied the Unusual Situations (section 4.4.5) protocols and why.

14. Identify which sites you applied the QA/QC Test of the 200-meter Distance (section 4.4.6) protocols and results.

15. Identify which sites you applied the QA/QC test of documenting flow changes within the sample period (section 4.4.6) protocol.

16. Based on your experience, what physical channel or upslope characteristics would you use to identify the Type Np/Ns Water break during higher flow periods:
    a. Between "dry channel" and "spatially intermittent flowing water?"

    b. Between "spatially intermittent flowing water" and continuous flowing water?"

17. Identify any protocols that you believe cause variability in crew application either due to accuracy, precision, or bias.

18. What independent analysis have you done to date on your data that you think is important for analysis of 2001 data?

19. What physical parameters (e.g. substrate, bankfull width, etc) did you not collect data on and/or you believe could be deleted from the list and why?

20. Based on your analysis and/or experience, what are some critical elements/issues to consider for the 2002 study design?

You are welcome to add any other thoughts or insights to this questionnaire on the back of this sheet or separate page. Thank you for your assistance in completing this information.

UPSAG Np Technical Group
SUMMARY OF RESPONSES
Perennial Stream Survey (PSS) Project: 2001 Pilot Phase

Compiled 4/26/02, RCP

RESPONSES

Received	No Response
Colville/Spokane (COL)	
Longview Fiber (LVF)	
Port Gamble S'Klallam (PGS)	Campbell Group
Skagit System Cooperative (SSC)	HOH (HOH)
Suquamish (SUQ)	
Depart Fish & Wildlife (WDFW) – additional comments only - attached	
Yakama Nation (YAK)	

21. Place a check mark in front of any of the Definitions (section 3.0) protocols that the field crew had problems with, never used, or knowingly applied differently and why.

__ Flowing Water __ Defined Channel Yak General Channel Width
__NU (SSC) Standing Water_ Poorly Defined Channel SSC Yak General Channel Depth
LVF__ Flowing Pocket Water _PGS_ Modified Channel _Yak_ Stream Bed Substrate
LVF__ Standing Pocket Water _Col_ Piped Channel __ Wetland
__ Dry __ No Channel __PGS Seep
__ Unknown
__ Obscured

COL used mc for pc because there was a pipe or culvert
SSC – need to clarify that less than 5m of dry do not disrupt FW; 10 cm pocket too small – difficult to distinguish flow in 10 cm; substrate should include culvert and modified
YAK used uniform 30 m intervals as breaks were too time consuming

22. Identify any problems or differences applied in use of the Sample Site Selection (section 4.1) protocols.

SUQ – sites discarded because of urbanization/access

23. Identify any Equipment and Materials (section 4.2) used or not used that you believe biased results and how.

PGS – used abney level
SUQ – Use tape rather than surveyor's rod for measuring BFD
YAK used altimeter, compass, and USGS map for location

24. Identify any Sample Period (section 4.3) protocol problems or differences that were applied and why.

COL - should sample in early spring to account for base flow and fish presence
SSC - need longer time after ppt and not allow crew judgment to enter

25. Identify any Upstream Method (section 4.4.1.1) protocol problems or differences that were applied and why.

COL – redundant to locate PIP and then measure 200 m downstream to begin survey

26. Identify any Downstream Method (section 4.4.1.2) protocol problems or differences that were applied and why.

PGS – DNR hydro layer does not show Np streams in their watershed – difficult to apply method
SSC – problem with identifying PH
SUQ – faster than upstream because of ease of access

27. Identify any Main Thread Survey (section 4.4.2) protocol problems or differences that were applied and why.

SSC – problem with distributaries that don't reconnect
YAK recommends that when coin flip is used that both tribs are looked over and the one with the longest stretch of flowing water be followed.

28. Identify any Total Tributary Survey (section 4.4.2) protocol problems or differences that were applied and why.

29. Identify any Measurements (section 4.4.3) protocol problems or differences that were applied and why.

CO L – standardize measure units (0.1 or 0.01 m for rounding?), seg. Breaks should only be selected if they result in a change of flow category, veget. Categories are too broad and for upland not riparian vegetation

PGS - 30 m length too short – used 100 m default length; only one gradient measurement per segment usually near upstream end

SSC – need to better ID "Upstream/Downstream"; better guidance on choosing "features assoc with flow change"; more detail on sketches

SUQ – BFW/BFD

30. Identify any Determining the End Point (section 4.4.4) protocol problems or differences that were applied and why.

SSC – 200 m is too far to look above Ph and too short too insure a continuously flowing or dry channel
SUQ – 200 m excessive; ended survey at top of flow even if the channel continued
YAK 200 m may not be sufficient - they encountered water beyond 200 m of dry channel.

31. Identify if and how you applied the Unusual Situations (section 4.4.5) protocols and why.

SSC – sites with road influence – how to evaluate affects.

32. Identify which sites you applied the QA/QC Test of the 200-meter Distance (section 4.4.6) protocols and results.

33. Identify which sites you applied the QA/QC test of documenting flow changes within the sample period (section 4.4.6) protocol.

34. Based on your experience, what physical channel or upslope characteristics would you use to identify the Type Np/Ns Water break during higher flow periods:
    a. Between "dry channel" and "spatially intermittent flowing water?"

    LVF – can't be done
    SSC – perhaps average distance downstream from Ph
    SUQ – wetlands/saturated ground

    YAK – discontinuous flow oftentimes emerged at abrupt gradient break; also mesic or hydric plant communities and mossy rocks

    b. Between "spatially intermittent flowing water" and continuous flowing water?"

    LVF – can't be done

SSC – don't know all observed features were variable between sites
SUQ – defined channel
YAK – no distinction

35. Identify any protocols that you believe cause variability in crew application either due to accuracy, precision, or bias.

COL – clearer guidelines for identification. Seg breaks, measure BFW/BFD, and flow cat.
PGS – their inexpensive abney level could not measure accurately in the 1 – 4% range
SSC – small minimum lengths for flow cat., obscure flow/channel conditions; locating Ph
YAK – substrate size determination: distinction between pdc and nc

36. What independent analysis have you done to date on your data that you think is important for analysis of 2001 data?

PGS - compared PIP to geol. – close assoc with till/outwash contact
SCC – Ph to Np break

37. What physical parameters (e.g. substrate, bankfull width, etc) did you not collect data on and/or you believe could be deleted from the list and why?

LVF – substrate, BFW/BFD, probably not useful
SSC – all collected but longer default length would streamline survey
YAK – substrate and BFD difficult to measure and probably provide little useful info

38. Based on your analysis and/or experience, what are some critical elements/issues to consider for the 2002 study design?

COL – 2-day short course prior to field season; location of sites prior to field season.
LVF – survey should start at fixed physical point and confined to measuring distance and gradient to Pp, Pd, and Ph; better define these points to cleared ID. 200 m length excessive on west side, OK on east.
PGS – simplify – lengthen default dist. To 100 m; begin closer to PIP; eliminate some variables; greater use of other sources prior to survey (geol maps, etc)
SUQ – protocols too time-consuming – reduced sample size
YAK – channel seeps (SIIP)

You are welcome to add any other thoughts or insights to this questionnaire on the back of this sheet or separate page. Thank you for your assistance in completing this information.

Col –see attached sheet.

Comments on

2001 Np Pilot Field Protocol

Robert Palmquist

My comments take two forms: those related to my experience processing the data and those of geomorphologist considering potential influences on perennial flow.

Data Processing Experience

1. **Point Numbering and Segment descriptions**: For consistency in the interpretation of data – the traverse should begin at point #0. The description of the segment between #0 and #1 should be associated with point #1
2. **End Verification**: The survey information should state that the traverse extended 200 m beyond each end. This is best accomplished on an upstream traverse by point #0 being 200 m before the Pp and the last point being 200m beyond the Pd or just beyond the Ph. The Ph should be included in every survey.
3. **Associated Features**: Features relating to changes in flow regimen should be noted particularly such features as woody debris, debris flow sediment, bedrock (till) outcrops, hydric or mesic vegetation, and changes in valley width or valley floor width, along with those features presently included. The class OT should not exist – lets determine what could be included.
4. **Map Location**: The coordinates for points Pp, Pd, and Ph should be given in consistent units. I recommend that these points be located on a USGS topographic map (particularly the georeferenced topos available for GIS), so that they agree with the hydro layer and reduce interpretation by the GIS technician. Coordinates should be entered as either decimal degrees or northings and eastings (state plane).
5. **Entry protocol**: The data entry sheet should contain no letters or symbols in the numeric columns (this includes “, ‘, --, NA, no data, etc). All site-data should be entered sequentially on the same sheet and the sites numbered sequentially with the site numbering protocol being HOH1, HOH2, PGS1, PGS2, etc.

Perennial Flow Controls

Perennial flow is maintained by factors outside of the stream channel. As many of these environmental factors should be noted in the field as possible to facilitate the identification of field criteria. In addition to the factors presently requested, I recommend:

1. Valley floor width – the width of the level valley floor between the more steeply sloping valley sides (an estimate of quantity of possible subsurface flow).
2. Distance to outcrops and outcrops in channel bed – again an estimate of potential subsurface flow.
3. Valley relief (Inner gorge relief) – too small to measure from topographic maps but an indicator of potential soil water inflow to stream.
4. Riparian vegetation – a measure of degree of long term soil saturation and potential for perennial flow